

WHAT IS CLAIMED IS:

1. A hot-press cushioning material comprising a non-woven fabric formed of a fiber web, characterized in that said fiber web comprises a first component having a relatively low softening temperature and a second component having a relatively high softening temperature, and

said non-woven fabric is compressed at a temperature which is not lower than the softening temperature of the first component but lower than the softening temperature of the second component.

2. A hot-press cushioning material comprising a non-woven fabric formed of a fiber web, characterized in that said fiber web comprises a first component having a softening temperature and a second component having no softening temperature, and

said non-woven fabric is compressed at the softening temperature of the first component or higher.

3. The hot-press cushioning material according to claim 1, wherein said softening temperature of the first component is lower than a hot-press forming temperature of an object to be pressed and said softening temperature of the second component is higher than the hot-press forming temperature of the object to be pressed.

4. The hot-press cushioning material according to claim 2, wherein said softening temperature of the first component is lower than a hot-press forming temperature of an object to be pressed.

5. The hot-press cushioning material according to claim 1, wherein said first component is a material selected from a group comprising polyethylene, polypropylene, nylon 6, low-melting polyester, acryl, polyvinyl alcohol, and polyphenylene sulfide, and

said second component is a material selected from a group comprising nylon 66, polybenzoxazole, polybenzimidazole, polyimide, polyester, polyphenylene sulfide, polytetrafluoroethylene, polyether ether ketone, and phenol.

6. The hot-press cushioning material according to claim 2, wherein said first component is a material selected from a group comprising polyethylene, polypropylene, nylon 6, low-melting polyester, acryl, polyvinyl alcohol, and polyphenylene sulfide, and
- 5        said second component is a material selected from a group comprising aromatic polyamide, polyamideimide, polyarylate, metal, carbon, silica, glass, and ceramics.
- 10    7. The hot-press cushioning material according to claim 1, wherein said fiber web is provided such that a first fiber comprising said first component as a main constituent and a second fiber comprising said second component as a main constituent are mixed.
- 15    8. The hot-press cushioning material according to claim 7, wherein a mixture ratio of said first fiber to said second fiber is 5/95 to 70/30 by mass.
- 20    9. The hot-press cushioning material according to claim 7, wherein said first fiber has a core-in-sheath structure consisting of a core part comprising said first component and a coating part comprising said second component.
- 25    10. The hot-press cushioning material according to claim 1, wherein said fiber web comprises a fiber having a core-in-sheath structure consisting of a core part comprising said first component and a coating part comprising said second component.
- 30    11. The hot-press cushioning material according to claim 1, wherein said non-woven fabric is provided such that said fiber web and a woven fabric comprising the equal component as said second component are needlepunched.
12. The hot-press cushioning material according to claim 1, comprising a surface coating material laminated on said non-woven fabric.
- 35    13. A manufacturing method of a hot-press cushioning material

comprising a compressed non-woven fabric, comprising:

a step of preparing a non-woven fabric made of a fiber web comprising a thermoplastic first component having a softening temperature and a heat-resistant second component having a softening temperature higher than the softening temperature of said first component or having no softening temperature;

a step of compressing said non-woven fabric at the softening temperature of said first component or higher;

a step of cooling said non-woven fabric to a temperature lower than the softening temperature of said first component in a compressed state; and

a step of releasing the compressed state of said non-woven fabric after cooled.

14. The manufacturing method of the hot-press cushioning material according to claim 13, wherein said fiber web is provided such that a first fiber comprising said first component as a main constituent and a second fiber comprising said second component as a main constituent are mixed.

15. The manufacturing method of the hot-press cushioning material according to claim 14, wherein a mixture ratio of said first fiber to said second fiber is 5/95 to 70/30 by mass.

16. The manufacturing method of the hot-press cushioning material according to claim 14, wherein said first fiber has a core-in-sheath structure consisting of a core part comprising said first component and a coating part comprising said second component.

17. The manufacturing method of the hot-press cushioning material according to claim 13, wherein said fiber web comprises a fiber having a core-in-sheath structure consisting of a core part comprising said first component and a coating part comprising said second component.

18. The manufacturing method of the hot-press cushioning material according to claim 13, wherein said non-woven fabric is provided such that

said fiber web and a woven fabric comprising the equal component as said second component are needlepunched.

5 19. The manufacturing method of the hot-press cushioning material according to claim 13, wherein a surface coating material is laminated on said non-woven fabric to be integrated.

10 20. A manufacturing method of a laminated board comprising a step of heating and pressurizing the laminated board with a flat-plate cushioning material interposed between the laminated board and heating and pressurizing means, characterized in that said cushioning material is the hot-press cushioning material according to claim 1.